Horse Trail Underpass
Beneath Going-to-the-Sun Road, approximately
fourteen miles northeast of the park entrance
at West Glacier
Glacier National Park
Flathead County
Montana

HAER No. MT-72

WEST GLACIER →

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15-WEGLA,
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PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, DC 20013-7127

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HISTORIC AMERICAN ENGINEERING RECORD

HORSE TRAIL UNDERPASS
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Location: Beneath Going-to-the-Sun Road, approximately fourteen miles northeast of the park entrance at West Glacier, Glacier National Park, Flathead County, Montana
UTM: Lake McDonald West Quad. 12/289330/5391230

Date of Gonstruction: 1936 or 1937

Structural Type: Reinforced concrete equestrian tunnel with masonry facades

Contractor: Martin Wunderlich Co., Jefferson City, Missouri

Subcontractor: W.K. Trippet, Whitefish, Montana

Engineer: Bureau of Public Roads

Owner: Glacier National Park

Use: Equestrian tunnel

Significance: The Horse Trail Underpass is one of approximately seventeen prominent masonry and concrete structures on Going-to-the-Sun Road in Glacier National Park. The 51-mile stretch of scenic road is significant as a unique engineering accomplishment of the early twentieth century, and as the first product of a 1925 cooperative agreement between the National Park Service and the Bureau of Public Roads. Ironically, however, while the engineers made every effort to accomodate horses as the traditional means of transportation, the road was built to encourage motorized vehicles in the park; and this, inevitably, caused a dramatic decrease in the popularity of horseback riding throughout the park.

Project Information: Documentation of the Horse Trail Underpass is part of the Going-to-the-Sun Road Recording Project, conducted during the summer of 1990 under the co-sponsorship of HABS/HAER and Glacier National Park. Researched and written by Kathryn Steen, HAER Historian, 1990. Edited and transmitted by Lola Bennett, HAER Historian, 1992.

For measured drawing, see HAER MT-67B, sheet 1.

Going-to-the-Sun Road

The Horse Trail Underpass is located next to McDonald Creek and runs under Going-to-the-Sun Road, a scenic park road that winds through the spectacular mountains and valleys in the middle of Glacier National Park. The 51-mile road, built in sections between 1911 and 1933, and rebuilt during the next two decades, runs east and west through the park. Starting in the west, the road runs from West Glacier, along the 10-mile eastern shore of Lake McDonald and then up McDonald Creek for an additional ten miles. About one mile beyond the junction with Logan Creek, the road begins its ascent to Logan Pass. The road climbs at a 6-percent grade, passes through a tunnel, and turns at a major switchback called "The Loop." Following the contours of the sides of Haystack Butte and Pollock Mountain, the road passes over several bridges, culverts, and retaining walls, before reaching Logan Pass. Beyond the Pass, the road descends to the east along the sides of Piegan Mountain and Going-to-the-Sun Mountain before running along the north shore of St. Mary Lake. The road exits the park as it crosses Divide Creek near St. Mary, Montana.[1]

Significance of the Road

Going-to-the-Sun Road is significant as an outstanding engineering feat of the early twentieth century. In addition, the road was the first product of the interagency cooperative agreement between the National Park Service (NPS) and the Bureau of Public Roads (BPR). The agreement, signed in 1925, allowed the National Park Service to utilize the roadbuilding expertise of the Bureau of Public Roads while still retaining control to protect the landscape.[2]

Horse Trail Underpass

In 1933, the park formally celebrated the opening of Going-to-the-Sun Road. Even as they noted their achievement, however, the BPR and NPS had plans for major reconstruction on the parts of the road built before 1925. About twenty miles on the west end and eight miles on the east end of the road had narrower roadways, tighter curves, and rustic log structures. Reconstruction on the west side began early in 1935, and during the next three construction seasons, Going-to-the-Sun Road was improved from West Glacier to about a mile east of Logan Creek with a series of contracts. Martin Wunderlich Company of Jefferson City, Missouri, won the contract to rebuild a section of road from Lake McDonald Hotel to Avalanche Creek in May 1936. Parts of the reconstruction involved realignment of the road. Near the head of Lake McDonald, Going-to-the-Sun Road crossed a horse trail. In the past, horses went over the road on a log overpass, but engineers decided to direct the horses under the road because an underpass fit the topography of the new alignment better, and the width of the new road would require an excessively large overpass. Wunderlich subcontracted the horse trail underpass to W.K. Trippet of Whitefish, Montana. Trippet also constructed several other structures along the road, including the Snyder Greek Bridge and the Avalanche

Creek Bridge.[3]

Long before Glacier National Park had a completed Going-to-the-Sun Road, it had horses. For several years, horse rides formed an integral part of a visit to the park. During the 1910s, the park horse concessioners operated 300 to 500 horses. By 1926, the peak year for horse use, over 25 percent of all park visitors took at least one horse ride. All through the late 1920s and 1930s, the concessioners maintained 800 horses, although the number and percentage of visitors who rode horses continued to drop. After World War II, the horse riding business never recovered its earlier popularity, largely because of improved park roads and the booming post-war car culture in America.[4]

Description

The Horse Trail Underpass is a narrow tunnel constructed of reinforced concrete slabs, with curved masonry facades at either portal end. The horse trail passes under the road, through the underpass, at an angle of 45 degrees. The quarry-faced stone facades are curved on a radius of 10'-7¼". Each portal is capped by a segmental arch with a central keystone. From the ground to the keystone, the underpass is 16' high on the north side. It is 19'-9" to the top of the guardrail on the road, and the tunnel is 10'-8½" wide. The reinforcing in the concrete slab is ¾-inch steel rods, and the plans also called for 21-inch stone anchors of ½-inch steel rods. The underpass contains 5240 pounds of reinforcing steel, 47 cubic yards of concrete, 27 cubic yards of masonry, and required 716 yards of excavation.[5]

ENDNOTES

1. See the Historic American Engineering Record report HAER MT-67 on the Going-to-the-Sun Road.

2. C.H. Purcell, F.A. Kittredge, J.A. Elliott, T.C. Vint, and G.J. Kraebel, Suggested Procedure for Cooperation Between the National Park Service and the Bureau of Public Roads in Major Traffic-Way Projects within the National Parks, April 22, 1925 (Record Group 79, National Archives, Washington, D.C.)

3. A.V. Emery and John Zoss, "Final Construction Report on Glacier National Park, Transmountain Highway, West Side, Project NR 1-A, Unit 1, Reconstruction, Grading and Draining, and Project 1-A, Unit 1, Bridges," July 28, 1939 (Glacier National Park Library Historical Files).

4. Bruce W. Becker, "An Evaluation of the Horse Concession Operations in Glacier National Park," August 28, 1972 (Glacier National Park Library).

5. The measurements come from the accompanying HAER drawing, the original BPR plans, and Emery and Zoss, "Final Construction Report." The latter two belong to the Glacier National Park Library Historical Files.

BIBLIOGRAPHY

Becker, Bruce W. "An Evaluation of the Horse Concession Operations in Glacier National Park." August 28, 1972 (Glacier National Park Library, West Glacier, Montana).

Emery, A.V. and John Zoss. "Final Gonstruction Report on Glacier National Park, Transmountain Highway, West Side, Project NR 1-A, Unit 1, Reconstruction, Grading and Draining, and Project 1-A, Unit 1, Bridges." July 28, 1939 (Glacier National Park Library Historical Files).

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Purcell, G.H., F.A. Kittredge, J.A. Elliott, T.C. Vint, and G.J. Kraebel. Suggested Procedure for Cooperation Between the National Park Service and the Bureau of Public Roads in Major Traffic-Way Projects Within the National Parks. April 22, 1925 (Record Group 79, National Archives, Washington, D.G.)